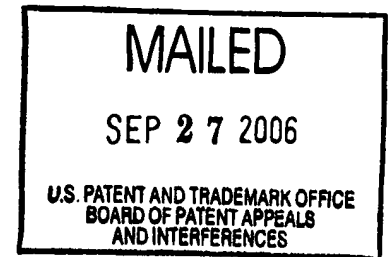UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex <u>parte</u> VIKTORS BERSTIS

Appeal No. 2006-2363
Application No. 10/015,880

ON BRIEF

MAILED

SEP 2 7 2006

U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Before JERRY SMITH, SAADAT, and HOMERE, <u>Administrative Patent Judges</u>.

SAADAT, <u>Administrative Patent Judge</u>.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-4, 6-10, 12-17 and 19-21. Claims 5, 11 and 18 have been canceled.

We reverse.

BACKGROUND

Appellant's invention is directed to image processing including sensor design and moiré reduction. Among the interference artifacts resulting from uniform grid-like features of the image is the moiré pattern which often resembles

crosshatch halftones across at least a part of the digital image

which does not represent any actual feature (specification, page

4).

Representative independent claim 1 is reproduced below:

1.   A method of producing a sampled image comprising the
steps of:

providing a plurality of sensor positions in a row
arrangement non-uniformly distributed with varying distances
between each adjacent pair of sensor positions determined
according to a first predictable deterministic schema; and

selectively sampling an image by sequentially exposing image
portions to said row arrangement according to a second
predictable deterministic schema such that each sensor position
is sampled in a non-uniformly varying spatial manner to obtain a
first set of data samples representing non-uniformly spaced
points in said image.

The Examiner relies on the following references in rejecting

the claims:

Resnikoff et al. (Resnikoff)   4,574,311   Mar. 4, 1986

Tom Balph (Balph), "LFSR Counters implement binary polynomial
generators," May 21, 1998, EDN-Design Feature,
http://edn.com/archives/1998/052198/11df 0.6htm.

Claims 2-4, 6-8, 12, 13, 19 and 20 stand rejected under the

second paragraph of 35 U.S.C. § 112 as being indefinite for having

limitations without antecedent basis in the base claim.[1]

---

[1]   The rejection of claims 9 and 14 under the first and second paragraphs
of 35 U.S.C. § 112 is withdrawn by the Examiner (answer, page 4).

Claims 1-4, 6-10, 12-17 and 19-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Resnikoff and Balph.

Rather than reiterate the opposing arguments, reference is made to the briefs and answer for the respective positions of Appellant and the Examiner.

<u>OPINION</u>

With respect to the 35 U.S.C. § 112 rejection of the claims, Appellant initially refers to various portions of the specification to establish antecedent basis for the term "said first predetermined schema" (brief, page 4). However, in response to the Examiner's clarification (answer, page 11), acknowledging that the word "predetermined" is not explicitly recited in the base claim, Appellant argues that the claim is not indefinite since one of ordinary skill in the art would have been able to ascertain the scope of the claims (reply brief, page 5).

Although it is not clear why Appellant did not amend the claims to reflect the claimed subject matter as recited in the amended independent claim, we do not find that the above mentioned inconsistency rises to the level of a rejection for

indefiniteness due to lack of antecedent basis. In fact, as argued by Appellant (id.), the scope of the claims can be ascertained by the ordinarily skilled artisan as the claimed "said first predetermined schema" clearly refers to the one and only "first" schema in claim 1. Therefore the rejection of claims 2-4, 6-8, 12, 13, 19 and 20 under the second paragraph of 35 U.S.C. § 112 is not sustained.

Turning now to the 35 U.S.C. § 103 rejection of the claims, the Examiner relies on Resnikoff for disclosing the claimed features except for a predictable deterministic schema as the non-uniform distribution (answer, pages 5-6). The Examiner further relies on Balph for using linear feedback shift registers for generating pseudorandom numbers (answer, page 6). As the reason for combining the references, the Examiner identifies reduction of the amount of logic by using a non-uniform predictable deterministic distribution schema for sensor placement (id.).

Appellant argues that one skilled in the art would not be motivated to combine the deterministic non-linear counter of Balph with the probabilistic Poisson disc process of Resnikoff since the references relate to different processes based on

probability and determinism (brief, pages 6-7). Appellant

further points out that Balph's counters generate number in a

sequential manner resulting in an even layout of numbers in a

"uniform" deterministic distribution (brief, page 8) whereas

Resnikoff discloses only a probabilistic "Poisson" distribution.

We agree with Appellant that Balph's disclosure lacks any

relationship with the Poisson probability function of Resnikoff.

Contrary to the Examiner's assertion that the differences between

these two types of function are not of importance (answer, page

13), one of ordinary skill in the art would not have found it

obvious to apply the deterministic process of Balph to a

probabilistic process of Resnikoff. An obviousness analysis

commences with a review and consideration of all the pertinent

evidence and arguments. "In reviewing the examiner's decision on

appeal, the Board must necessarily weigh all of the evidence and

argument." In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443,

1444 (Fed. Cir. 1992). In this case, as discussed by Appellant

(brief, pages 7-9), the claims require a predictable process

which is also deterministic.

In view of our analysis above, we find that the Examiner has

failed to set forth a prima facie case of obviousness because the

necessary teachings and suggestions to show that such
substitution is motivated or the polynomial function has anything
to do with the design of the claimed image array are absent.
Accordingly, based on the weight of the evidence and the
arguments presented by the Examiner and Appellant, we do not
sustain the 35 U.S.C. § 103 rejection of claims 1, 10 and 15 as
well as claims 2-4, 6-9, 12-14, 16, 17 and 19-21, dependent
thereon, over Resnikoff and Balph.

CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting 2-4, 6-8, 12, 13, 19 and 20 under 35 U.S.C. § 112 and rejecting claims 1-4, 6-10, 12-17 and 19-21 under 35 U.S.C. § 103 is reversed.

REVERSED

JERRY SMITH   )
Administrative Patent Judge   )
)
)
)
) BOARD OF PATENT
MAHSHID D. SAADAT   )   APPEALS
Administrative Patent Judge   )   AND
) INTERFERENCES
)
)
)
JEAN R. HOMERE   )
Administrative Patent Judge   )

MDS/kis

7

IBM CORPORATION (RHF)
C/O ROBERT H. FRANTZ
P. O. BOX 23324
OKLAHOMA CITY, OK 73123